



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,653	11/08/2001	Theodore W. Houston	TI-23326	4840

23494 7590 06/18/2003

TEXAS INSTRUMENTS INCORPORATED  
P O BOX 655474, M/S 3999  
DALLAS, TX 75265

EXAMINER

MANDALA, VICTOR A

ART UNIT	PAPER NUMBER
----------	--------------

2826

DATE MAILED: 06/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/010,653

Applicant(s)

HOUSTON, THEODORE W.

Examiner

Victor A Mandala Jr.

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 12-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### Response to Election/Restriction Requirement

1. Examiner has noted that the applicant has responded to the election restriction from the last communication response. The applicant has elected Species 1, of Figures 1a-e, claims 1-11 for further examination. Claims 12-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6. Election is made final and claims 1-11 will be further examined.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the elected Species I Figures 1a-e, the transistor as in claim 1 and the gate region in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 6-9, & 11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 & 5-6 of U.S. Patent No. 6,043,535 Houston. Although the conflicting claims are not identical, they are not patentably distinct from each other because the rejected claims are obvious broader limitations of the claims from U.S. Patent No. 6,043,535.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The general concept of sublithographic which is the resolution slightly below the light exposure wavelength where the examiner is unable to identify the unit size; the

Art Unit: 2826

applicant is trying to teach. What light source is being used, ultraviolet, blue, or etc.? What unit range of size is the invention made?

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,043,535 Houston.

5. Referring to claim 1, an integrated circuit structure, comprising: a body, (Figure 6d #120, 122, & 124), of semiconductor material, (Figure 6d #124), over an insulating layer, (Figure 6d #134); a transistor formed in said semiconductor material, (Figure 6d #124); a section of conducting material, (Figure 6d #126), within said insulating layer, (Figure 6d #134); a connection of conducting material, (Figure 6d #126), connecting said body, (Figure 6d #120, 122, & 124), to said section of conducting material, (Figure 6d #126), wherein said connection is formed in a trench, (Figure 6d #126 & 136), located beneath the channel region, (Figure 6d #124), of said transistor, the width of said trench, (Figure 6d #126 & 136), being reduced by sidewalls, (Figure 6d #136).

6. Referring to claim 2, an integrated circuit structure, wherein said semiconductor material is silicon, (Col. 3 Line 67 and Col. 4 Line 1).

Art Unit: 2826

7. Referring to claim 3, an integrated circuit structure, wherein the width of said trench, (Figure 6d #126 & 136), after said sidewalls, (Figure 6d #136), are formed is sublithographic.
8. Referring to claim 4, an integrated circuit structure, wherein said insulating layer, (Figure 6d #134), is an oxide, (Col. 4 Lines 3-4).
9. Referring to claim 5, an integrated circuit structure, wherein said section of conducting material, (Figure 6d #126), is polysilicon, (Col. 7 Lines 23-24).
10. Referring to claim 6, an integrated circuit structure, wherein said connection of conducting material, (Figure 6d #126), is formed between sidewalls, (Figure 6d #136), which are formed in a trench, (Figure 6d #126 & 136), within said insulating layer, (Figure 6d #134).
11. Referring to claim 7, an integrated circuit structure, comprising: a gate, (Figure 6d #116), structure formed on a body of a semiconductor material, (Figure 6d #124); an insulating layer, (Figure 6d #134), formed opposite said gate, (Figure 6d #116), structure beneath said semiconductor material, (Figure 6d #124); a conducting region, (Figure 6d #126), within said insulating layer, (Figure 6d #134), beneath said gate structure, (Figure 6d #116), said conducting region, (Figure 6d #126), having sublithographic width.
12. Referring to claim 8, an integrated circuit structure, wherein said conducting region, (Figure 6d #126), contacts said semiconductor material, (Figure 6d #124).
13. Referring to claim 9, an integrated circuit structure, wherein said conducting region, (Figure 6d #126), is formed in a trench, (Figure 6d #126 & 136), with sidewalls, (Figure 6d #136).
14. Referring to claim 10, an integrated circuit structure, wherein said semiconductor material is silicon, (Col. 3 Line 67 and Col. 4 Line 1).

Art Unit: 2826

15. Referring to claim 11, an integrated circuit structure, wherein said conducting region, (Figure 6d #126), is separated from said semiconductor material, (Figure 6d #124), by a dielectric material, (Figure 6d #132).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor A Mandala Jr. whose telephone number is (703) 308-6560. The examiner can normally be reached on Monday through Thursday from 8am till 6pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

VAMJ  
June 12, 2003